

## CRISIS MENTAL HEALTH PLANNING FACTORS FOR DISASTERS IN THE HOMELAND

BY

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USAWC PROGRAM RESEARCH PAPER

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by

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## **ABSTRACT**

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National, strategic guidance has directed the Department of Defense (DoD) to plan and prepare to support civil authorities in response to disasters in the homeland. This includes both natural and man-made disasters. Organizations have been created within the Department in response to this guidance, such as US Northern Command and various units that would respond to chemical, biological, and radiological/nuclear events. The National Response Plan also outlines the Department's role in potentially providing medical support to civil authorities, such as crisis mental health requirements. Unfortunately, an analysis of some recent disasters - man-made and natural - indicate that the DoD may not be prepared to respond with appropriate support in this area of health needs. The Substance Abuse and Mental Health Service Administration's Needs Assessment Formula provides a basic algorithm to quickly compute potential crisis mental health needs. Populating this worksheet with disaster statistics produces sobering requirements that the Department is not structured to respond to. Additionally, these depicted requirements are not accounted for in any force generating models. Mental health needs become even more demanding when the DoD must respond internally, and not in support of civil authorities.



## CRISIS MENTAL HEALTH PLANNING FACTORS FOR DISASTERS IN THE HOMELAND

Much literature and national strategic guidance has been written, post 9/11, regarding the role of the Department of Defense (DoD) in support of civil authorities within the United States. This guidance has come in the form of Homeland Security Presidential Directives (HSPD), National Security Strategy (NSS), National Military Strategy (NMS), the Quadrennial Defense Review (QDR), and the National Response Plan (NRP), to name just a few of these documents. Actions and program/resource investments within the DoD have been made in conjunction with this guidance, along with mandated legislative and presidential-directed changes. The creation of US Northern Command (NORTHCOM) and the position of the Assistant Secretary of Defense (Homeland Defense) (ASD (HD)) are two such examples.

The question that has not been answered to date is whether the DoD has the right planning factors, capabilities, and portfolio of skills to both internally support itself and to perform its defense support of civil authorities (DSCA) mission. This very subject is the basis of a recently commissioned capabilities based assessment, sponsored by NORTHCOM and the ASD(HD). One specific area of concern regards mental health implications and requirements for disasters in the homeland – both manmade (terrorist events) and natural - on and off of federal installations. Researchers can analyze a wealth of data to answer such questions, and the indications are that the planning factors for mental health needs must be carefully considered and accounted for whenever the DoD responds to disasters, and not just the well-documented focus on combat related psychological needs. Unfortunately, these data indicate that the DoD



may not be postured to respond to the magnitude of crisis mental health requirements needed, even though guidance directs the Department to prepare for such requirements.

### National Guidance for the Department of Defense

#### Quadrennial Defense Review (QDR)

The recent QDR outlines investment of 1.5B to fund medical countermeasures against bio terror agents which will "strengthen HLD and HLS," while highlighting that by alleviating suffering and dealing with crises in their early stages, US forces can help prevent disorder from spiraling into wider crisis or conflict.<sup>1</sup> The QDR also states that the response to Hurricane Katrina, "vividly illustrates the need for the Department to support other agencies in the context of complex interagency operations at home."<sup>2</sup>

#### Homeland Security Presidential Directive/HSPD-18

HSPDs also provide guidance to the DoD. The subject of this directive (Medical Countermeasures against Weapons of Mass Destruction (WMD) -- chemical, biological, radiological, and nuclear agents (CBRN)) states that WMD in the possession of hostile states or terrorists represent one of the greatest security challenges facing the United States. Additionally, an attack utilizing WMD potentially could cause mass casualties, compromise critical infrastructure, adversely affect our economy, and inflict social and psychological damage that could negatively affect the American way of life. Accordingly:

We must be fully prepared to respond to and recover from an attack if one occurs. Accordingly, we have made significant investments

in our WMD consequence management capabilities in order to mitigate impacts to the public's health, the economy, and our critical infrastructure. The development and acquisition of effective medical countermeasures to mitigate illness, suffering, and death resulting from CBRN agents is central to our consequence management efforts.<sup>3</sup>

#### Homeland Security Presidential Directive / HSPD-8

The subject of this HSPD is National Preparedness and it establishes policies to strengthen the preparedness of the United States to prevent and respond to threatened or actual domestic terrorist attacks, major disasters, and other emergencies by requiring a national domestic all-hazards preparedness goal, establishing mechanisms for improved delivery of Federal preparedness assistance to State and local governments, and outlining actions to strengthen preparedness capabilities of Federal, State, and local entities. Additionally,

The term "all-hazards preparedness" refers to preparedness for domestic terrorist attacks, major disasters, and other emergencies; The term "preparedness" refers to the existence of plans, procedures, policies, training, and equipment necessary at the Federal, State, and local level to maximize the ability to prevent, respond to, and recover from major events. The term "readiness" is used interchangeably with preparedness.<sup>4</sup>

### Defense Strategy for Homeland Defense (HLD) and Civil Support (CS)

This DoD guidance document outlines the organizing construct for HLD and CS missions with regards to leading, supporting, and enabling civil authorities by minimizing damage and recovering from domestic CBRNE attacks. It also makes the assumption on page 9 that in the event of a major catastrophe, the President will direct the DoD to provide substantial support to civil authorities, requiring the Department to be prepared to support its interagency partners and civilian responders through a range of incidents and mass casualty events.<sup>5</sup>

### Joint Publication 3-26 Homeland Security, 2 August 2005

This joint publication gives guidance to the HLD and CS missions by highlighting the Department's role in terms of supporting US civil authorities for domestic emergencies. It also outlines the Department's requirement for readiness for the HLD and CS mission areas, including engagement in Emergency Preparedness (EP). This publication continues with the following definitions:

Response is the ability to rapidly and effectively support civil authorities in managing the consequences of disasters and catastrophes, including natural, manmade, or terrorist incidents. EP is a shared responsibility and a partnership that includes the federal government, state, and local agencies, the private sector, and individual citizens. Each plays a crucial role and must be prepared to respond immediately to any threat.<sup>6</sup>

Thus far, listed federal guidance has somewhat discounted the human element and response to disasters and catastrophic events, using definitions and directing preparedness without actually specifying what types of support must be planned for and might be required. The National Response Plan goes into much greater depth and defines Emergency Support Functions (ESFs).

### National Response Plan (NRP)

Homeland Security Presidential Directive (HSPD) - 5 directed the creation of a response plan to assist in the recovery of terrorist acts, natural disasters, and other emergencies. The NRP defines mitigation as those activities designed to reduce or eliminate risks to persons or property or to lessen the actual or potential effects or consequences of an incident.<sup>7</sup> The Stafford Act establishes the programs and processes for the federal government to provide disaster and emergency assistance to states, local governments, tribal nations, individuals, and qualified private non-profit organizations. The provisions of the Stafford Act cover all hazards including natural disasters and terrorist events, and are therefore applicable to the National Response Plan. The NRP also states that the Department of Veteran Affairs can be authorized to furnish hospital care and medical services to individuals responding to, involved in, or otherwise affected by a disaster or emergency declared by the President.<sup>8</sup>

Under Emergency Support Function (ESF) #8 – Public Health and Medical Services – the DoD is listed as a supporting agency to the Department of Health and Human Services (HHS), with a scope of assessing public health/medical needs including behavioral health. This ESF outlines areas of support including assessment of needs, patient care, all hazard public health and medical consultation, technical

assistance and support, and behavioral health care. The DoD is directed to be prepared to provide emergency medical support to assist state, local, and tribal governments within the disaster area and the surrounding vicinity; with services including mental health support and the use of surviving DoD medical facilities within or near the incident area.<sup>9</sup>

Guidance clearly indicates that the DoD is supposed to plan for crisis mental health requirements/demands, and that the Department could reasonably be asked to provide such support to civil authorities under Emergency Support Function #8. This support would fall under the operations of a Defense Coordinating Officer and Element as part of a federal health medical disaster response (DoD Emergency Prep Course, 2005). While this type of support could consist of longer term care for DoD employees and their families, civil support at disaster incidents focuses on mental health "triage," where the intent is to mitigate longer term mental health risk and identify those that need immediate assistance. Another perspective is that crisis mental health support provides,

immediate psychological management to allow for effective public health and emergency response strategies such as mitigating or preventing psychological distress and fear, minimizing potential, unnecessary demands on the health care system, and to reduce both short-term and long-term psychological morbidity, .. . , offering crisis counseling, screening for mental health problems, providing psychological first aid, and providing supportive counseling to those in need.<sup>10</sup>

NORTHCOM depicts this as recovery and remediation - the intent to restore a sense of well being to the community.<sup>11</sup> This treatment is critical and the likelihood of success is "increased when appropriately diagnose[d] and treated, . . . , giving people the opportunity to talk about their experiences very soon after a catastrophic event reduces some of the symptoms of Post Traumatic Stress Disorder (PTSD)."<sup>12</sup> Within the Department of Defense, these professional capabilities would reside in licensed clinical psychologists, as well as those professionally certified members of the chaplain corps.

### Methodology and Historical Incidents

In order to investigate mental health requirements related to acts of terrorism and disasters in the homeland, a selection of both types of incidents will be presented. A review of this historical information helps inform the nature and magnitude of potential "needs" that planners of medical requirements must consider. Additionally, incidents occurring on military installations, or involving military personnel and their families will be analyzed. This provides a methodology of looking not only at incidents involving DoD support to civil authorities, but also those incidents where DoD assets would be utilized to respond within the Department - in many cases a more demanding or "stressing" case since primary response for the incident would be a DoD requirement and expectations by those DoD employees and families affected would be extremely high. A DoD-centric scenario has historically involved medical, logistical, transportation, escort, and administrative support, among other requirements. Additionally, primary responsibility for the establishment of family assistance centers has historically fallen on the DoD, when incidents are DoD-centric. Current family readiness groups (FRGs) at

the various Army installations, although focused on deployment issues and casualty assistance, are examples of the DoD embracing and identifying this requirement.

All traumas and disasters stir terror,  
often including exposure to death and the experience of physical injury, . .  
. . , fears of contamination, loss of home and the resulting relocation can  
further complicate recovery, . . . , manmade and natural disasters differ in  
the degree to which they are felt to be preventable and controllable.<sup>13</sup>

For both terrorist incidents and incidents associated with natural disasters, mental health need determinants derive not only by the number killed, but also from the number of casualties, the number rendered homeless, and the number losing their place of work. It includes, "victims, their relatives, their friends, disaster workers, and witnesses."<sup>14</sup> It is basically a multivariate problem in which all categories must be considered and the failure to account for any single category has historically resulted in an underestimation of the requirement need. The devastating and multiple hurricanes that struck the state of Florida in 2004 serve as an example of this underestimation of mental health needs/requirements, where state and federal assets continued to lag demand, not from the low number of actual casualties (forced evacuations minimized this number), but by not appropriately considering the number of people who lost their place of work and/or lost their homes.<sup>15</sup> Since no single agency collects and archives mental health (MH) data following disasters and terrorist incidents, there is no uniform or consistent set of categories of data, making analysis difficult and "under researched."<sup>16</sup> .

Both types of disasters elicit fear, anger, and worry in victims, their families, and friends, that could lead to psychological symptoms of anxiety and depression. Research has shown that human-made disasters (terrorist incidents) are more, "psychologically pathogenic than are natural disasters, . . . , terrorism may be the most pathogenic of all due to its unpredictable and unrestrained nature."<sup>17</sup> The difference between natural disasters and terrorism (incidents of mass violence) is that the latter, "is intentional and therefore the most disturbing type of disaster, thus the psychological consequences are frequently more severe."<sup>18</sup> Accordingly, those affected by a terrorist incident not only include the victims or those injured, but also the first responders - those that attempt to assist victims - as well as the family members and friends of the victims. The US Department of Health and Human Services (HHS) in their field guide to Mental Health Response to Mass Violence and Terrorism clearly states in the introduction:

Those confronted with life threat, mass casualties, overwhelming terror, and human suffering may experience severe psychological stress and trauma. Survivors, families, and the affected communities cope not only with the resulting deaths, injuries, and destruction, but also with the horrific knowledge that their losses were caused by intentional human malevolence, . . . , these traumatic realities also impact first responders, media personnel, government officials, and others whose job-related responsibilities bring them in contact with the disaster's tragic impact.<sup>19</sup>

This paper, therefore, considers both natural disasters and terrorist events in an attempt to provide a reasonable bound on potential mental health requirements.



## Non-Military Incidents

### Oklahoma City 1995

The first non-military disaster to be reviewed consists of the 1995 terrorist bombing of the Murrah federal building in Oklahoma City. At this domestic terrorist incident, the following were recorded from this bombing:

Total Casualties	843
Killed	168
Injured	675
Homeless	462
Workplace Loss	7,000
Total Mental Health Contacts	17,136
Mental Health Service Providers	400

Although this terrorist act occurred in a very finite location and with a discrete population, the criminal act of the incident itself contributed to the factors that had to be considered for mental health planning purposes. A total of 168 people lost their lives and another 675 were injured. Seven thousand individuals lost their place of work at the Murrah building and in the surrounding vicinity, along with another 462 rendered homeless. These latter figures stem from the massive blast where over 324 of the surrounding buildings were damaged. Ultimately, this resulted in a recorded 17,136 mental health 'contacts' being made and a requirement of 400 service providers, or 43 contacts/patients per mental health provider.<sup>20</sup> Additionally, a total of 1,088 psychiatrists and social workers provided thousands of hours of direct support.

Since many of the victims were children, this caused additional mental health stress not only on the surviving victims, but also on the first responders. Over 387,000 Oklahomans personally knew someone who was a victim in the Murrah building and over 186,000 individual contacts were made for mental health debriefing sessions,

educational materials, and other services. Nine months after the bombing, schools logged an additional 10,000 contact hours with children since 691 children experienced a direct impact from the terrorist act and another 1,653 were indirectly affected. Overall, 70% of Oklahoma City school children surveyed indicated some level of PTSD.<sup>21</sup>

### World Trade Center 2001

At this 9/11/2001 terrorist incident, the tabulated results were as follows:

9,128	Casualties
2,837	Deaths
6,291	Injured
25,000	Displaced Workers

As a result of this terrorist act, mental health counseling was required for 164,076 people. Included in this figure are those that lost their place of work and homes, since 29 million square feet (or 30%) of all lower Manhattan office space was destroyed or severely damaged. This means that for the 9,128 casualties and those displaced, over 1,139 contacts were made daily for mental health needs, a staggering number and requirement for those charged with providing this service.<sup>22</sup>

Other incidents of note (non terrorist related) include:

Rhode Island Night Club Fire 2003	330 Casualties	326 Family
Colorado Firefighting for 2004-5	22,000 Contacts	1,200 MH Providers
Pennsylvania Mining Emergency 2005	9 Trapped	20 MH Providers for 100s of contacts

## National Transportation Safety Board (NTSB) Statistics

	# Killed	# Injured	# Homeless	Total Affected	# Contacts
Egyptair 990 (1999) RI	217			217	600
Alaska Air 261 (2000) CA	88			88	900
Executive Air (2000) PA	19			19	80
Mid-Air Collision (2000) NJ	7	4	2.5	13.5	30
Gulfstream (2001) CO	18			18	35
Papillon helicopter (2001) AZ	6			6	25
American 587 (2001) NY	265			265	1000
Beechcraft (2002) MN	8			8	40
USAirways 5481 (2002) NC	21			21	70
Medevac Helicopter (2004) TX	4			4	68
Pinnacle Air (2004) MO	2		7.5	9.5	25
Corporate Airlines 5966 (2004) MO	13	2		15	50

Figure1, NTSB Safety Board Statistics

Data provided by the NTSB is skewed towards a very high number of persons killed (Figure 1).<sup>23</sup> This is due to the very nature of aircraft crashes and disasters that ultimately result in a very low survival rate. Figure 1, NTSB Data, 2004

By these statistics, one can bound the requirement for mental health contacts/needs from between 2 1/2 to 10 per person killed. The NTSB data does not capture the number of people whose place of work has been lost, but does portray the higher number killed due to the aircraft crash.

### Military Incidents

#### Pope Air Force Base "Green Ramp"

A DoD centric example of a disaster is the 1994 Green Ramp incident at Pope Air Force Base, North Carolina. During this non-terrorist event, an Air Force aircraft crashed into a staging area for Army paratroopers causing a massive explosion and fire. The US Army Institute of Surgical Research recorded the following statistics in their published after action report:<sup>24</sup>

130 Casualties (death or injured)	566 Contacts	98 Providers
10 immediate fatalities		
50 patients transferred to burn centers around the country		

A family assistance center was established at the regional medical center in accordance with established military/organizational plans, in addition to the establishment of a support center at home station. Staffing for this effort came from the garrison commander, which empowered the medical, chaplain, family support, and public affairs staffs. A cadre was also placed at the local airport. Staff chaplains were assigned to support four to five casualties and their families, as well as to perform informal debriefings and spiritual healing for this group and for first responders. The lack of professional psychiatric support made initial mental health evaluations of patients difficult. The strong chain of command and concern mitigated many would be problems.

For this recorded military disaster, there were approximately five mental health contacts per casualty, equating to almost six contacts per mental health provider (a very low number/ratio - very demanding). This incident displays the response of a DoD centric disaster - the use of military health and religious providers, the establishment of family assistance centers, shortages of mental health professionals internal to the DoD, and the use of casualty assistance officers that are historically assigned to provide a central point of contact for relatives of victims with regards to issues such as surviving dependent benefits, burial benefits, serviceman life insurance, etc. This process of casualty assistance continues today for family members of casualties in both Iraq and Afghanistan. It is the military version of a "one stop shop liaison" and is expected by

DoD families, as is the DoD family assistance centers or family readiness group centers.

### Gander Military Air Disaster

Another military disaster to consider is the Gander Newfoundland crash of a chartered aircraft bringing soldiers from the 101st Airborne Division back home to Fort Campbell, Kentucky following a deployment to the Sinai Peninsula in 1985. As outlined in the 1987 summary report from Walter Reed Army Institute of Research, all aboard the aircraft were killed in the crash - 248 Army Soldiers total.

The bereaved community extended far beyond the borders of Fort Campbell, . . . and included families of the dead, survivors in affected military units, Gander crash site workers, Dover Air Base mortuary personnel, and a multitude of service providers, both professional and volunteer, who came in contact with the bereaved.<sup>25</sup>

According to the executive summary, most DoD professional mental health workers had not received adequate training in the response to mass casualty events, an indication of a potential capability gap in the portfolio of DoD skills. Over 250 casualty assistance officers were assigned to families, displaying the military model of assistance and "requirement" to the family of each casualty. The summary goes on to state that the "pressure to complete body identification and recovery as quickly as possible with very limited resources resulted in intensified over-exposure and the institution of psychological debriefings were an afterthought."<sup>26</sup>

## Pentagon

A more recent incident consists of the 9/11/2001 terrorist attack on the Pentagon. As a result this terrorist attack, the following statistics were reported by the Pentagon Family Assistance Center (PFAC):<sup>27</sup>

Casualties	290
Killed	184
Injured	106
Treat/released	57
Admitted	49
MH Contacts	22,800
MH Service Providers	149

At this tragic incident, 290 casualties accounted for a staggering 22,800 contacts with only 149 trained mental health providers responding. This equates to 78 contacts per casualty and over 153 contacts per mental health provider. Additionally, since this act occurred at a military installation and to a portion of military personnel, childcare was provided for, a Pentagon Memorial service was scheduled, Armed Forces benefits were claimed, and other services were provided to the surviving family members. Four teams of two mental health specialists did conduct formal incident stress debriefings for all 500 "responder" soldiers.

## Catastrophes

### Hurricane Katrina

Unlike recent disasters, Hurricane Katrina was a "catastrophic event in which tens or hundreds of thousands of lives were immediately at risk."<sup>28</sup> This natural disaster/catastrophe falls into a category all of its own in magnitude, and can be reasonably considered by analysts within the scope of the National Planning Scenarios.

The bipartisan "A Failure of Initiative" after action report by a Congressional investigative committee in February 2006 highlighted some of the following findings:<sup>29</sup>

- DoD had not yet incorporated or implemented lessons learned from joint exercises in defense support to civil authorities that would have allowed for a more effective response to Katrina.<sup>30</sup>
- Deployment of medical personnel was reactive and not proactive.<sup>31</sup>
- The federal government will potentially be asked to provide medical, mental health, and pharmaceutical support.<sup>32</sup>
- SAMHSA deployed Disaster Technical Assistance Center teams to provide information and to supplement state and local disaster response planning.<sup>33</sup>

The "Federal Response to Hurricane Katrina Lessons Learned" of February 2006 lists that as of that date:<sup>34</sup>

300,000 People	Lost Their Homes
1,300 People	Died
2,096 People	Missing

According to the 2005 Louisiana Survey Post-Hurricane Community Audit by the Public Policy Research Lab, two out of five Louisiana citizens said that they or a family member suffered property damage or lost income because they were unable to work, 31 percent reported that either they or a family member had lost a job or been laid off as a result of the storms, while an additional 11 percent reported having lost a business. Additionally, 53 percent of all those reporting felt depressed as a result of the hurricanes, while another 39 percent reported feeling angry.<sup>35</sup> With an estimated 1.36 million residents displaced, this incident has been, "called the greatest mass migration

in our nation's history."<sup>36</sup> (Louisiana Family Assistance Center, 3). This migration was clearly different than the previous local and regional displacements accorded to hurricanes.

In terms of actually tabulating and recording mental health needs and requirements, this effort is still being calculated and will hopefully be captured in the near future. The location of lost ones, dispersed over a region/nation is an example of a larger scale version of the Rhode Island nightclub fire, where casualties were evacuated to treatment facilities in three different states, complicating accountability and physical location of casualties for both survivors and family members.<sup>37</sup> Complexity surrounding Hurricane Katrina effects stem from the fact that this catastrophe resulted in a national displacement, where mental health and psychological impacts are hard to tabulate by any single organization or entity. Total psychological impact of this incident may never be completely or accurately known.

#### Southeast Asia Tsunami, 2004

The devastating and catastrophic tsunami that struck Southeast Asia on December 26, 2004 resulted in the following recorded deaths by country.<sup>38</sup>

Indonesia	104,055
Sri Lanka	48,677
India	15,493
Thailand	5,246
Somalia	176
Burma	90
Maldives	82
Malaysia	68
Tanzania	10
Seychelles	3



Bangladesh	2
South Africa	2
Kenya	1
Yemen	1

Total: 173,906

Another estimated 500,000 persons were hospitalized (casualties) and an estimated 5,000,000 people lost their homes. This does not even take into account the number of people who lost their place, or means, of income. Mental health requirements for a catastrophe of this magnitude can only be estimated as being massive.

#### Scaling and the Needs Assessment Formula

Just as the Department of Defense utilizes Defense Planning Scenarios with descriptions like "least stressful," "most stressful," "least likely," and "most likely," to bound potential requirements and solutions, one can also attempt to bound crisis mental health requirements associated with disasters. The mental health "triage" that occurs immediately following an incident helps to mitigate the potential population that might ultimately display characteristics of post traumatic stress disorder (PTSD), which would ultimately require much more intensive and longer term mental health care. Incidents where the DoD is in support to a lead federal agency and supporting civil authorities can be viewed as a lesser or least stressful case in terms of scaling. Again, a more stressful case occurs when the incident occurs on a DoD installation and the requirement for all primary care and response falls into the domain of the DoD (i.e. housing, relocation, medical care, casualty assistance, etc.).

As part of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (PL 93-288, Title 42 United States Code), the Federal Emergency Management Agency

and the Substance Abuse and Mental Health Services Administration (SAMHSA) developed the mental health Needs Assessment Formula that is used to estimate mental health requirements following a disaster. This tool predicts crisis mental health requirements and consists of multiple variables and categories including:

Number killed  
Number injured  
Homes destroyed  
Disaster unemployed

Figure 2, taken from the HHS Mental Health All-Hazards Disaster Planning Guidance, depicts the needs assessment formula.<sup>39</sup> ANH refers to the average number in a household and is taken from census data. The default number for an undocumented AHN is 2.5.

Loss Categories	Number of Persons	ANH	Range Estimated	Total
Type of Loss	Number	Multiply by ANH	At-Risk Multiplier	Number of persons targeted per loss category
Dead			100%	
Hospitalized			35%	
Non-hospitalized Injured			15%	
Homes destroyed			100%	
Homes "Major Damage"			35%	
Homes "Minor Damage"			15%	
Disaster Unemployed			15%	
(Others--Specify)				
<b>Total estimated persons in need of crisis Counseling services (add total column)</b>				

Figure 2, Needs Assessment Formula

Since the psychological effects of a disaster, "manmade or natural can quickly overwhelm medical resources if they are not recognized and managed," the failure to account for all of these categories results in an under estimation of the true mental health requirements following a disaster.<sup>40</sup> The multiple hurricanes of 2004 that battered the state of Florida provided one such example of this underestimation. The implication for the DoD is that any underestimation in the more stressful cases results in a taxing of the local or state capacity to appropriately respond (if this capability and capacity is available). Any area of support that the DoD cannot adequately meet for its own constituency would simply add to the burden of the local and state requirement.

When one takes the Need Assessment Formula and then populates the spreadsheet with actual data from the incidents listed in this document, the potential mental health requirements are staggering (see figures 3 and 4).

Loss Categories	Number of Persons	ANH	Range Estimate	Total
Type of Loss (as of 11 JAN 05)	Number	Multiply By ANH [5.0]	At-Risk Multiplier	Number of persons targeted per loss category
Dead	173,906	869,530	100%	869,530
Hospitalized	500,000	2,500,000	35%	875,000
Non-hospitalized Injured	0	0	15%	0
Homes destroyed	5 Million	25 Million	100%	25,000,000
Homes "Major Damage"	0	0	35%	0
Homes "Minor Damage"	0	0	15%	0
Disaster Unemployed, disease, missing (Others--Specify)	0	0	15%	0
<b>Total estimated persons in need of crisis Counseling services (add total column) (ANH would be different in Asian Countries)</b>				<b>26,744,530</b>

Figure 3, Tsunami Needs Assessment Example

The tsunami example does not even consider the number of persons missing, unemployed, or those with house damage, yet the Needs Assessment Formula predicts that approximately 27 million people would potentially require mental health support. Figure 4 depicts the Needs Assessment Formula with the recorded Hurricane Katrina statistics:

Loss Categories	Number of Persons	ANH	Range Estimate	Total
Type of Loss	Number	Multiply By ANH [2.5]	At-Risk Multiplier	Number of persons targeted per loss category
Dead	1,300	3,250	100%	3,250
Hospitalized	unknown		35%	
Non-hospitalized Injured	0	0	15%	0
Homes destroyed	300,000	750,000	100%	750,000
Homes "Major Damage"	0	0	35%	0
Homes "Minor Damage"	0	0	15%	0
Disaster Unemployed, disease, missing (Others--Specify) - Missing	2,096	5,240	15%	786
<b>Total estimated persons in need of crisis Counseling services</b>				<b>754,036</b>

Figure 4, Hurricane Katrina Needs Assessment Example

Although the data collected as a result of Hurricane Katrina is incomplete, an estimated 750,000 people would require mental health support. Additionally, if one considers the National Planning Scenarios developed by the Homeland Security Institute and used by both the Department of Homeland Security and DoD, tens of thousands of casualties from not only natural disasters, but also by acts involving weapons of mass destruction and chemical, biological, radiological, nuclear, and high explosive means would be presented.<sup>41</sup> Several of these scenarios are deliberate "catastrophic" incidents designed to focus the nation on large magnitude response. For

these catastrophic scenarios, response would require robust capability in "medical response, security, and critical infrastructure response."<sup>42</sup>

### Conclusions

Given the incidents depicted above and the response that was provided following these incidents, a more demanding requirement for crisis mental health support occurs in the DoD centric scenarios where an estimated five mental health contacts were assigned to each mental health professional, and recovery services are almost exclusively provided by the DoD. Expanding this paradigm to the realm of catastrophes, a staggering 27 million and 750,000 persons would be estimated as needing mental health care following the two listed catastrophes (tsunami, Katrina) respectively. These numbers do not even consider the number of people who seek treatment and are not actually impacted (worried well), oftentimes increasing a medical requirement fifteen-fold according to the Homeland Security Council.<sup>43</sup> Using the first of the national planning scenarios as a template, the hundreds of thousands of casualties would require medical care from some entity of the government. Currently, the DoD simply does not have the capability to respond to any incident of this magnitude. There are no brigades of readily deployable crisis mental health specialists that could respond to either DoD centric or support to civil authority events. In the past, the Department has relied on both contractor support and volunteers to augment its mental health professional ranks. Medical support is outsourced via Tricare.

Force sizing mechanisms within the Army, for example, have used the Analytic Agenda and Total Army Analysis to look at military to civilian conversions, growth of the force, and the entire modular conversion of the operating force. Congressional reports,

Government Accounting Office studies, and combatant command assessments have all stressed concern for the support element that seems to be neglected in the brigade combat team-centric modular conversion and force generation model. Time, unfortunately, will tell if these concerns prove to be valid.

The DoD has made some investment in the recognition of mental health demands. For example, the Army created a behavioral health website to provide one virtual mechanism for providing "answers that come to the fore when Soldiers must deal with the stress of war."<sup>44</sup> While this service recognizes needs for both soldiers and families, the focus is on stress related to the ongoing war and the prevention of PTSD. The same recognition of mental health demands must be accounted for with regards to both the homeland defense mission of the DoD and its support to civil authorities.

### Endnotes

<sup>1</sup>Donald Rumsfeld, Quadrennial Defense Review Report (Washington, D.C.:Department of Defense, February 6, 2006), 5, 12.

<sup>2</sup>*Ibid.*, 87.

<sup>3</sup>George W. Bush, Homeland Security Presidential Directive 18 (Washington, D.C.: The White House, January 31, 2007), 1.

<sup>4</sup>George W. Bush, Homeland Security Presidential Directive 8, (Washington, D.C.: The White House, December 17, 2003).

<sup>5</sup>Gordon England, Strategy for Homeland Defense and Civil Support, (Washington, D.C.: Department of Defense, June 2005), 9.

<sup>6</sup>Joint Chiefs of Staff, Homeland Security, Joint Publication 3-26 (Washington, D.C.: U.S. Joint Chiefs of Staff, 2 August 2005), I-10,11.

<sup>7</sup>Tom Ridge, National Response Plan, (Washington, D.C: Department of Homeland Security, December 2004), 55.

<sup>8</sup>*Ibid.*, 82.

<sup>9</sup>Ibid., ESF #8.

<sup>10</sup>Terri L. Tanielian and Bradley D. Stein, "Understanding and Preparing for the Psychological Consequences of Terrorism," Homeland Security Handbook. Chapter 44. Rand Corporation, January 2006, 695.

<sup>11</sup>NORAD-USNORTHCOM, Emergency Family Assistance Center Conference Handbook, (Peterson AFB, CO: May 2005).

<sup>12</sup>National Institute of Mental Health, Reliving Trauma: Post Traumatic Stress Disorder, (Bethesda, MD. October 2001).

<sup>13</sup>Robert J. Ursano, Brian G. McCaughey, and Carol S. Fullerton, Individual and Community Response to Trauma and Disaster: The Structure of Human Chaos (New York: Cambridge University Press, 1994), xv.

<sup>14</sup>Ibid., 3.

<sup>15</sup>Jill Barton, "Floridians' Mental Health Suffers in Deluge of Storms," Associated Press, (West Palm Beach, FL: September 29, 2004).

<sup>16</sup>Brett T. Litz, "The Unique Circumstances and Mental Health Impact of the Wars in Afghanistan and Iraq," A National Center for PTSD Fact Sheet (Washington, D.C.: Department of Veterans Affairs, 2004).

<sup>17</sup>Judith J. Mathewson, "The Psychological Impact of Terrorist Attacks: Lessons Learned For Future Threats," Homeland Security Papers: Stemming the Tide of Terror (Chapter 9, February 2004), 192.

<sup>18</sup>Tanielian and Stein, 91.

<sup>19</sup>U.S. Department of Health and Human Services, "Mental Health Response to Mass Violence and Terrorism," A Field Guide, Center for Mental Health Services (Washington, D.C., 2005), vii.

<sup>20</sup>Betty Pfefferbaum, "The Oklahoma City Bombing: Organizing the Mental Health Response," (Department of Psychiatry and Behavioral Sciences, University of Oklahoma Press, 1996).

<sup>21</sup>Ibid.

<sup>22</sup>Office of the Mayor, New York City. "After Action Report and Statistics from the World Trade Center Bombing." (New York, NY, June 7, 2004).



<sup>23</sup>National Transportation Safety Board. "Mass Fatality Response," (Washington, D.C., 2004).

<sup>24</sup>D.W. Mozingo, D.J. Barillo, and JB Holcomb, The Pope Air Force Base Aircraft Crash and Burn Disaster, (US Army Institute of Surgical Research, Brooke Army Medical Center, Fort Sam Houston, Texas, 2005).

<sup>25</sup>Kathleen Wright and Linette Sparacino, The Human Response to the Gander Military Air Disaster: A Summary Report. (Washington, D.C.: Division of Neuropsychiatry, Walter Reed Army Institute of Research, 1987).

<sup>26</sup>*Ibid.*, 8.

<sup>27</sup>Pentagon Family Assistance Center, "Pentagon Statistics 12 September - 12 October 2001" (Washington, D.C.: Department of Defense, 2002).

<sup>28</sup>Dr. James Jay Carafano, "Improving the National Response to Catastrophic Disaster," Testimony before the House Committee on Government Reform, September 2005, 2.

<sup>29</sup>Tom Davis (Chairman), A Failure of Initiative The Final Report of the Select Bipartisan Committee to Investigate the Preparation For and Response To Hurricane Katrina (Washington, D.C.; U.S. Government Printing Office, February 15, 2006). Katrina.

<sup>30</sup>*Ibid.*, 4.

<sup>31</sup>*Ibid.*, 270.

<sup>32</sup>*Ibid.*, 273.

<sup>33</sup>*Ibid.*, 271.

<sup>34</sup>Francis Townsend, The Federal Response to Hurricane Katrina Lessons Learned, (Washington, D.C.: The White House, February 2006).

<sup>35</sup>The Public Policy Research Lab, The 2005 Louisiana Survey Post-Hurricane Community Audit, (The Reilly Center for Media and Public Affairs, Louisiana State University, November 30, 2005).

<sup>36</sup>Louisiana Family Assistance Center, Reuniting the Families of Katrina and Rita (Baton Rouge, LA, 2006), 3.

<sup>37</sup>Thomas Kilday, "The Station Fire, February 20, 2003," (Providence, RI.: Rhode Island Department of Health).

<sup>38</sup>National Oceanic and Atmospheric Administration, December 26, 2004 Indonesian Sumatra Earthquake and Tsunami Web Link Compilation and Data.

<sup>39</sup>Substance Abuse and Mental Health Services Administration (SAMSHA), Center For Mental Health Services, Needs Assessment Formula, 2000.

<sup>40</sup>Ursano, et al., 1994, 5.

<sup>41</sup>Homeland Security Council, National Planning Scenarios (Washington, D.C.: April 2005).

<sup>42</sup>Carafano Testimony, 5.

<sup>43</sup>Homeland Security Council, iv.

<sup>44</sup>Jerry Harben, "New Behavioral Health Website Offers Answers," Army Medical Command Public Affairs Office, April 2007.

